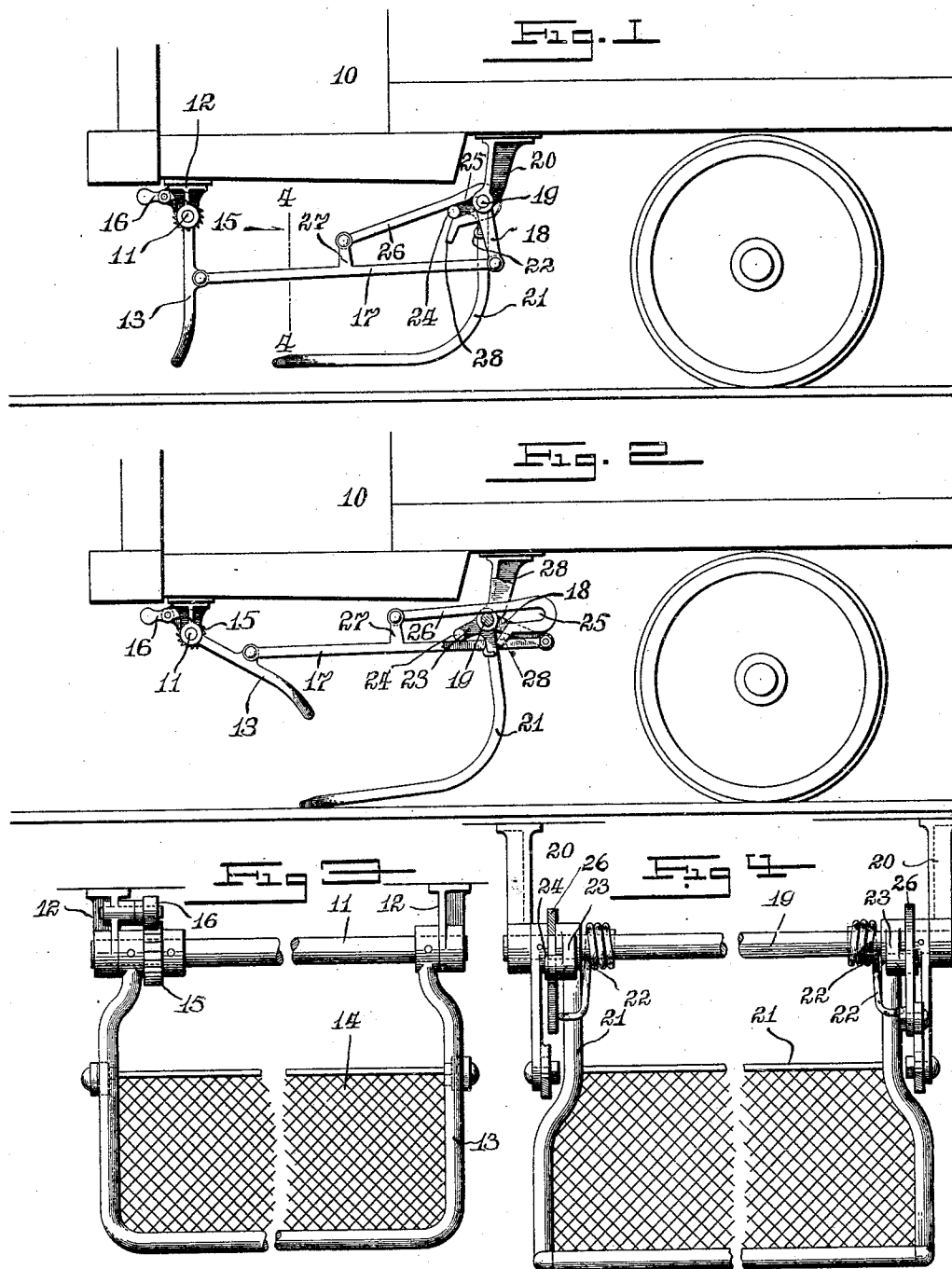


G. W. MAHAN.
CAR FENDER.
APPLICATION FILED AUG. 21, 1908.

931,326.

Patented Aug. 17, 1909.



Witnesses:
Frank L. Stubbs.
M. J. O'Donnell.

George W. Mahan, Inventor
By his Attorney:
W. P. Hutchinson.

UNITED STATES PATENT OFFICE.

GEORGE W. MAHAN, OF COLD SPRING HARBOR, NEW YORK.

CAR-FENDER.

No. 931,326.

Specification of Letters Patent.

Patented Aug. 17, 1909.

Application filed August 21, 1908. Serial No. 449,705.

To all whom it may concern:

Be it known that I, GEORGE W. MAHAN, of Cold Spring Harbor, Suffolk county, New York, have invented a new and useful Improvement in Car-Fenders, of which the following is a full, clear, and exact description.

My invention relates to improvements in car fenders such as are used on street cars, and the general object of my invention is to produce a very simple and positive car fender which can be easily attached to any ordinary car, and which will well serve the purpose of preventing a person from being accidentally run over.

More specifically the object of my invention is to produce a car fender which is entirely beneath the car and does not project from the end thereof, to provide a buffer which will first strike a person falling in front of the car, and which by being pushed backward will throw down the fender placed behind the buffer so that the fender will catch and protect the person struck, further to produce an operative connection between the fender and the buffer so that there shall be a positive but yielding connection between the said parts, to arrange this resilient connection so that after the device is set by the movement of the buffer the fender will be held snug down upon the rails, and finally to provide a locking device which will hold the parts in this relation until the buffer is released and it and the connecting parts re-set.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar reference characters indicate corresponding parts in all the views.

Figure 1 is a side elevation of the apparatus embodying my invention, the same being shown applied to a car and with the parts in normal position. Fig. 2 is a view similar to Fig. 1 but with the buffer pushed back and the fender sprung down upon the rails, Fig. 3 is a broken front elevation of the apparatus, and Fig. 4 is a broken front elevation partly on the line 4—4 of Fig. 1.

The car 10 can be of any usual kind, and beneath the end of the car, preferably below the platform, is arranged a shaft 11 supported in suitable hangers 12. Fast on the shaft 11 is a buffer 13 which can be of any approved style, which as illustrated is a framework with cross-netting 14 similar to the usual fenders, and the shaft 11 is provided with a ratchet wheel 15 which is engaged by

a handle pawl 16, the latter being pivoted above the ratchet wheel. Thus it follows that when the buffer 13 is swung back as shown in Fig. 2, the pawl will engage the ratchet wheel and prevent the buffer from moving forward. The real object of this pawl and ratchet lock, however, is to cause the fender hereafter referred to, after being thrown down, to be positively held against the rails.

The buffer 13 connects with the fender preferably on both sides, but the connection may be in any convenient place with the fender, the connection being by means of pitmen 17, although obviously one, two, or more pitmen and connected parts can be used, as will presently appear. I will therefore describe one connection between the buffer 13 and the fender 21. The pitman 17 at its rear end connects with a crank arm 18 rigidly secured on the transverse shaft 19 which is hung in suitable supports 20, these being preferably attached to the car truck, although they can be located in any suitable way beneath the car, and forward of the wheels. This shaft 19 supports the fender 21 which is of the usual fender type, comprising a side frame and a middle webbing, and the fender can be given any approved shape but should curve forward and downward as shown in the drawings. It is hung loose on the shaft 19 and connects therewith for operative purposes by means of springs 22 which are coiled around the shaft, and each spring is at one end attached to the shaft, while the other extends downward and connects with one of the side arms of the fender 21. Thus a resilient connection is made between the fender and the shaft, with the tension of the spring directed so as to throw the fender downward. Normally, however, the fender is raised to the position shown in Fig. 1 by the following means. Projecting forward from the journals of the fender 21 are arms 23 which have studs 24 thereon moving in the slotted ends 25 of the links 26, which are pivoted to the studs 27 on the pitmen 17. The parts 25 form open slots with the lower walls formed into downturned lips 28 which are adapted to engage the studs 24 when the links 26 are pulled forward.

The operation of the apparatus is as follows. Assuming the parts to be in normal position, as shown in Fig. 1, when the buffer 13 strikes a person or obstruction, it is

thrown backward and the pitmen 17 also move back carrying with them the links 26 and freeing the studs 24 from the said links. At the same time the crank arms 18 are moved backward and upward, thus augmenting the tension of the springs 22 and causing them to press the fender 21 firmly downward against the rails, and yet to press yieldingly so as to provide for any unevenness of the surface of the road-bed. Meanwhile the pawls 16 will have locked the parts in the position shown in Fig. 2 so that there will be no danger of the fender being thrown up accidentally so as to permit a person to pass beneath it. After the obstruction is removed, the pawls 16 are released, the buffer 13 thrown forward, and this pulls the links 26 forward, while the slotted parts 25 engage the studs 24 and turn the fender up to normal position.

Having thus fully described my invention, I claim as new and desire to secure by Letters Patent:—

1. An apparatus of the kind described, comprising a swinging buffer hung beneath the car, a pawl and ratchet for locking the buffer when it is turned back, a fender suspended behind the buffer, and an operative but yielding pitman connection between the buffer and fender, by which the backward movement of the buffer turns down the fender.

2. An apparatus of the kind described, comprising a swinging buffer hung beneath the car, a locking device for holding the buffer in its back-turned position, a fender hung behind the buffer, and an operative but yielding pitman connection between the buffer and the fender by which the backward movement of the buffer turns down the fender, and the forward movement of the buffer raises the fender.

3. An apparatus of the kind described, comprising a swinging buffer hung beneath the car, a shaft arranged behind the buffer, a fender hung on the shaft and having a spring connection therewith, an operative connection between the buffer and the shaft for increasing the tension of the aforesaid spring connection, and an operative connection between the buffer and fender for raising the latter against the tension of the spring.

4. An apparatus of the kind described, comprising a swinging buffer hung below a car, a fender hung behind the buffer, a supporting shaft for the fender, a spring connection between the shaft and the fender, a crank and lever connection between the buffer and the shaft whereby the backward movement of the buffer augments the tension of the spring, and means for lifting the fender against the tension of the spring by the forward movement of the buffer.

5. In an apparatus of the kind described, the combination with the swinging buffer, the swinging fender, and means for depressing the fender by the backward swing of the buffer, of links operated by the buffer and engaging studs on the fender so that the forward movement of the buffer causes the lifting of the fender.

6. In a car fender, a swinging buffer, means for locking the buffer, a rearwardly extending pitman connected with the buffer, supporting means, a fender arranged on the supporting means, an arm on the fender having a stud thereon, and a link having an inclined rear end pivotally connected with the pitman and adapted to engage with the stud of the fender arm.

GEORGE W. MAHAN.

Witnesses:

WARREN B. HUTCHINSON,
FRANK L. STUBBS.